



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RB 92700-10308-041-7-PO

Job Sheet 187747



Part No: RB 92700-10308-041-7-PO

Job Qty: 1 pcs

Part Name: Seal Installer



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/13/18

Job Tracking No:

Due Date: 12/21/18

Created By: Patrick Lussier

Type: Stock

Description:

Note: DWG RB 92700-10308-041 Rev.A IPP Rev. A 18.12.12 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup Hrs	Run Hrs		
100	Purchasing	1 pcs	12/21/18	12/21/18	0.00	0.00	Purchasing - 1 Purchasing - 2 Purchasing - 3	DEC 18 2018
110	Packaging 2-1 - Receive - B4B	1 pcs	12/21/18	12/21/18	0.00	0.00	Packaging 2 - 1 - B4B Packaging 2 - 2 - B4B Packaging 2 - 3 - B4B	DEC 18 2018
120	QC 6	1 pcs	12/21/18	12/21/18	0.00	0.00	QC 6 - 16 QC 6 - 38 QC 6 - 42 QC 6 - 9 QC 6 - 68	DAS 38 9-88
130	Packaging 3-1 - Stock - B4B	1 pcs	12/21/18	12/21/18	0.00	0.00	Packaging 3 - 1 - B4B Packaging 3 - 2 - B4B Packaging 3 - 3 - B4B Packaging 3 - 4 - B4B Packaging 3 - 5 - B4B	
140	QC 21 - SA	1 pcs	12/21/18	12/21/18	0.00	0.00	QC 21 - SA - 16 QC 21 - SA - 21	DEC 27 2018 DAS 70 9-89

Part Op 100 - Issue P/O to PJ MACHINAGE; P/O 042039 Manufacture RB 92700-10308-041-7 as per DWG. -
Descriptions: Certificate of Conformity is required
110 - Certificate of Conformity is required

Dec 13, 2018 x 1 Rlu

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RB 92700-10308-041-7P	Seal Installer	1 Ea (1 ea)	100-Purchasing	5138683
RB-92700-10308-041-8P		5138722 x1		

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RB 92700-10308-041-7P	1	0	0



Container No: S138685



Part: RB 92700-10308-041-7

Job No: 187747

Serial No/Batch: S138685

Revision: A

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

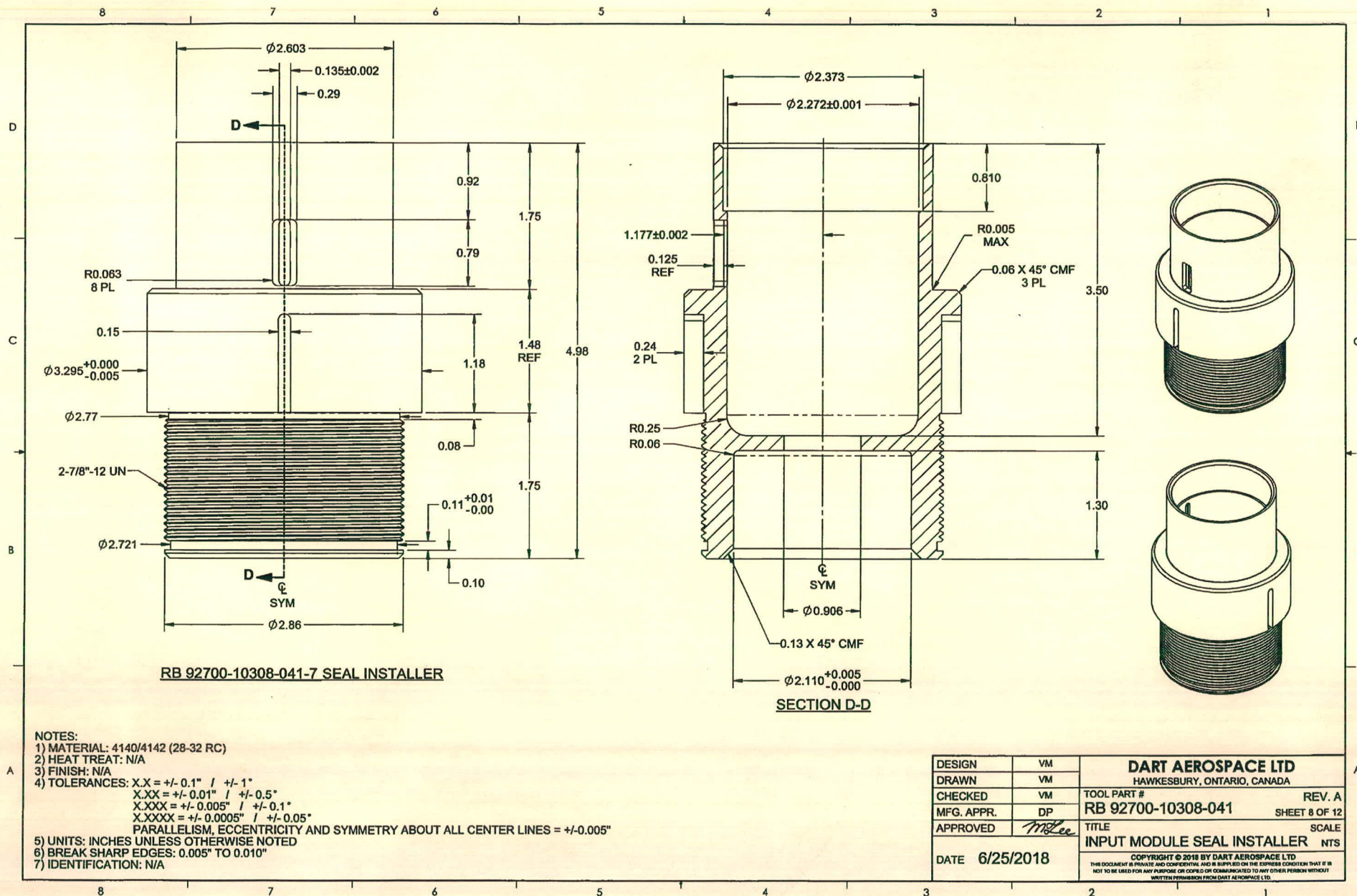
Date: 12/19/18

DEC 19 2018

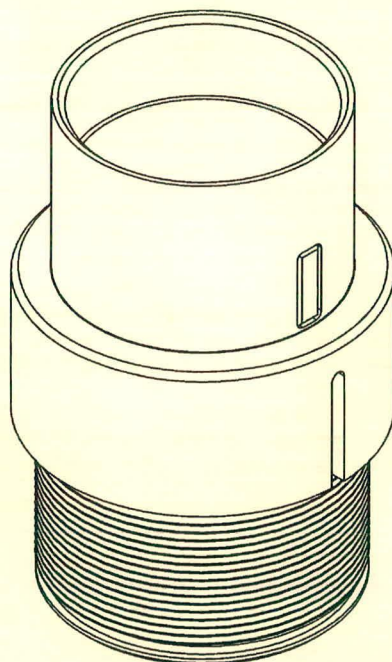
DEC 19 2018

Part Specifications
Specifications could not be found.

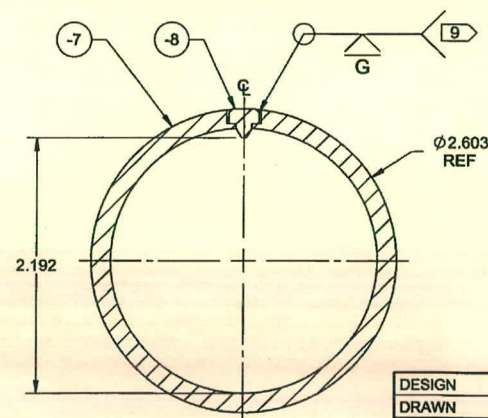
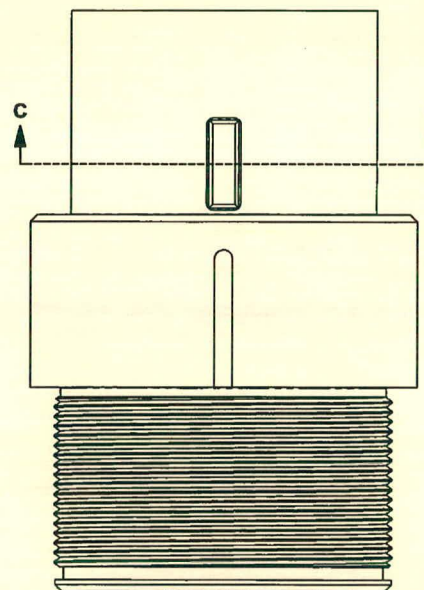
Plex 12/13/18 1:11 PM dart.Lussier.Patrick



ITEM #	QTY	PART #	PART TITLE
-7	1	RB 92700-10308-041-7	SEAL INSTALLER
-8	1	RB 92700-10308-041-8	GEAR ALIGNMENT



RB 92700-10308-041-6 SEAL INSTALLER ASSY



SECTION C-C

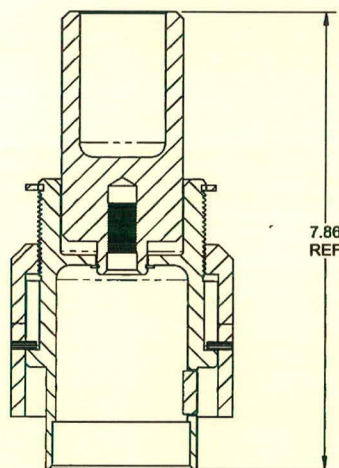
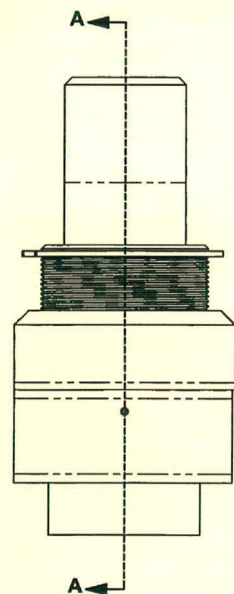
NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
- 4) TOLERANCES: X.X = ± 0.1 " / $\pm 1^\circ$
X.XX = ± 0.01 " / $\pm 0.5^\circ$
X.XXX = ± 0.005 " / $\pm 0.1^\circ$
X.XXXX = ± 0.0005 " / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = ± 0.005 "
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: N/A
- 7) IDENTIFICATION: N/A
- 8) ASSEMBLE AS SHOWN
- 9) GRIND OR MACHINE WELD FLUSH TO SURFACE OF ITEM -7

DESIGN	VM	DART AEROSPACE LTD	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VM	TOOL PART #	REV. A
MFG. APPR.	DP	RB 92700-10308-041	SHEET 7 OF 12
APPROVED	<i>M. Lee</i>	TITLE	SCALE
		INPUT MODULE SEAL INSTALLER	NTS
DATE	6/25/2018	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

360\$ each.

ITEM #	QTY	PART #	PART TITLE
-5	1	RB 92700-10308-041-5	PUSHER
-6	1	RB 92700-10308-041-6	SEAL INSTALLER ASSY
-9	1	RB 92700-10308-041-9	ALIGNMENT RING ASSY
-11	1	RB 92700-10308-041-11	THREADED RING
15	1	McMaster#97633A475 OR EQUIV	EXTERNAL RETAINING RING FOR 2-7/8" OD.
16	1	McMaster#97633A270 OR EQUIV	STEEL EXTERNAL RETAINING RING FOR 7/8" OD.



SECTION A-A

RB 92700-10308-041-4 INPUT MODULE SEAL INSTALLER ASSY 9

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1"

X.XX = +/- 0.01" / +/- 0.5"
X.XXX = +/- 0.005" / +/- 0.1"
X.XXXX = +/- 0.0005" / +/- 0.05"
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"

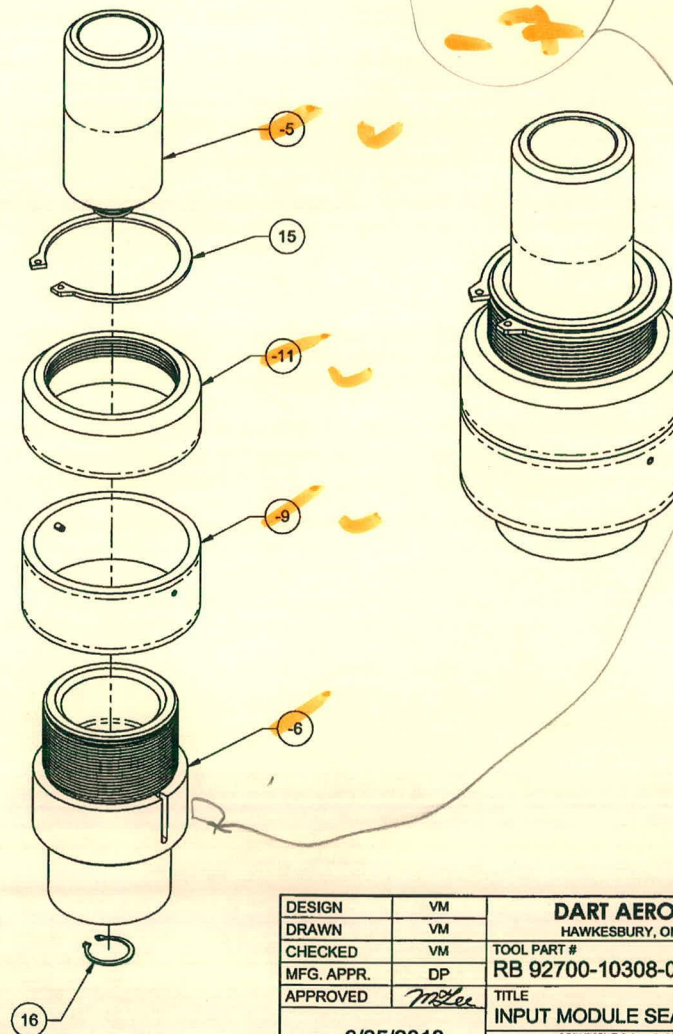
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED

- 6) BREAK SHARP EDGES: N/A

- 7) IDENTIFICATION: N/A

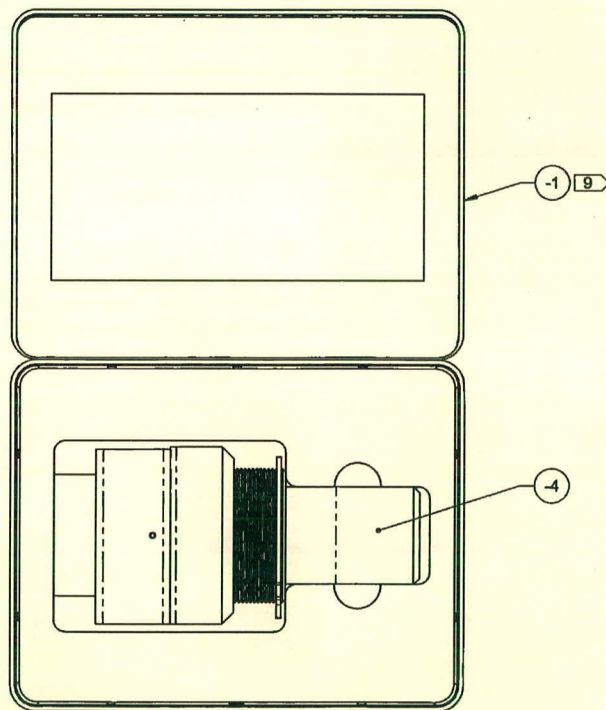
- 8) ASSEMBLE AS SHOWN

- 9) THE TOOL MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG



DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	VM	TOOL PART #	REV. A
MFG. APPR.	DP	RB 92700-10308-041	SHEET 5 OF 12
APPROVED	<i>Miles</i>	TITLE	SCALE
		INPUT MODULE SEAL INSTALLER	NTS
DATE	6/25/2018	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE, OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

ITEM #	QTY	PART #	PART TITLE
-1	1	RB 92700-10308-041-1	PACKAGING ASSY
-4	1	RB 92700-10308-041-4	INPUT MODULE SEAL INSTALLER ASSY
12	1	RB41011	DART PLACARD
13	4	McMaster#97524A032 OR EQUIV.	ALUMINUM SEALING BLIND RIVETS 1/8" DIA. x 0.425" LG.



RB 92700-10308-041 INPUT MODULE SEAL INSTALLER

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1"

X.XX = +/- 0.01" / +/- 0.5"
 X.XXX = +/- 0.005" / +/- 0.1"
 X.XXXX = +/- 0.0005" / +/- 0.05"

PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"

5) UNITS: INCHES UNLESS OTHERWISE NOTED

6) BREAK SHARP EDGES: N/A

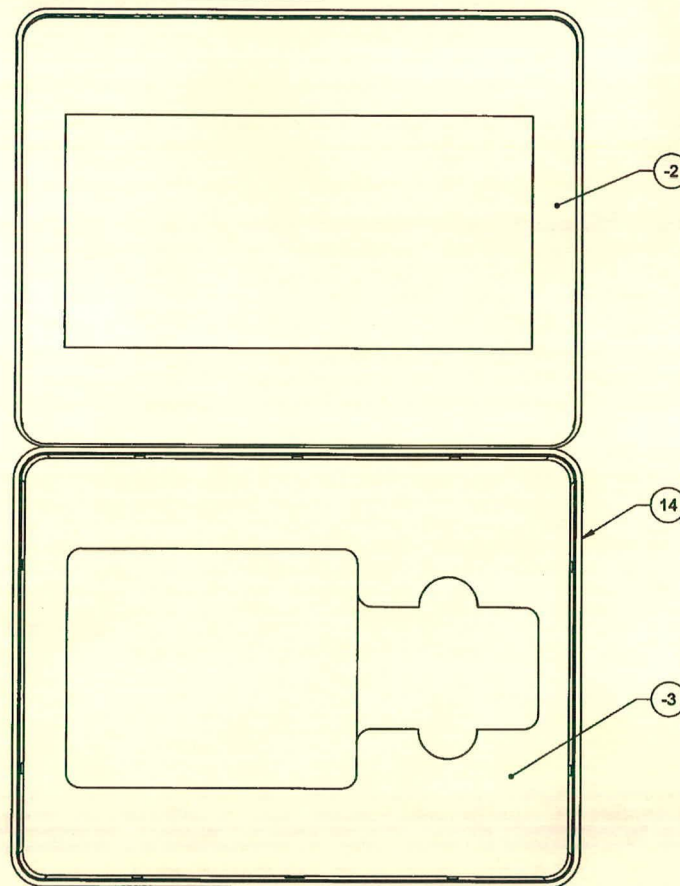
7) IDENTIFICATION: ENGRAVE THE TOOL P/N & S/N ON THE DART PLACARD WHERE INDICATED

8) INSTALL THE DART PLACARD ONTO THE TOP OF THE CASE IN AVAILABLE AREA USING ALUMINIUM POP RIVETS

9) HOT GLUE THE TOP AND BOTTOM FOAM INTO THE CASE

A	NEW ISSUE	18-632	VM
REV.	DESCRIPTION	ECN #	BY
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	VM	TOOL PART #	REV. A
MFG. APPR.	DP	RB 92700-10308-041	SHEET 1 OF 12
APPROVED	<i>M. Lee</i>	TITLE	SCALE
		INPUT MODULE SEAL INSTALLER	NTS
DATE	6/25/2018	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM #	QTY	PART #	PART TITLE
-2	1	RB 92700-10308-041-2	TOP FOAM
-3	1	RB 92700-10308-041-3	BOTTOM FOAM
14	1	PELICAN #APP-1200-E	PELICAN CASE 1200



RB 92700-10308-041-1 PACKAGING ASSY

NOTES:

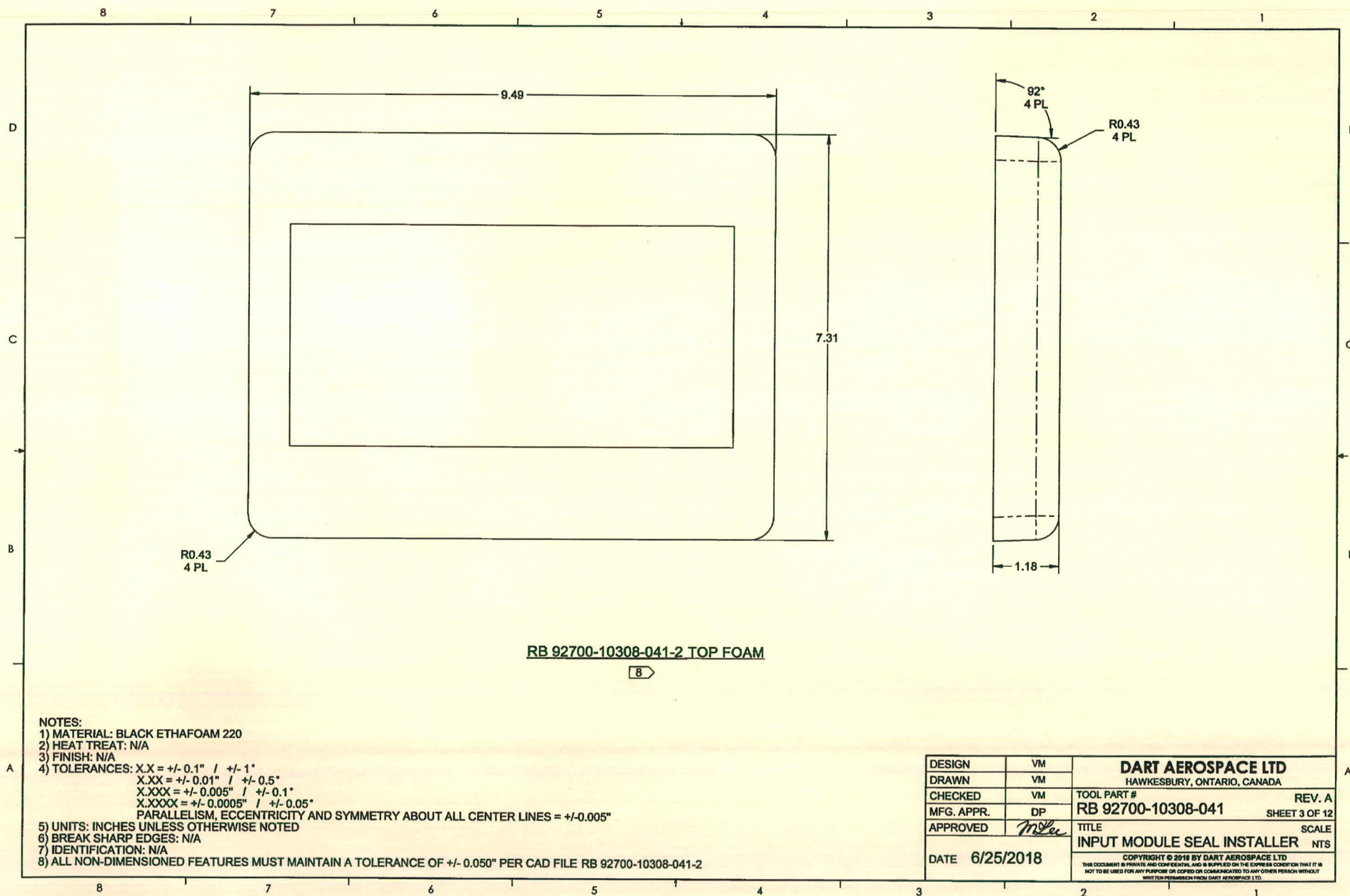
- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A

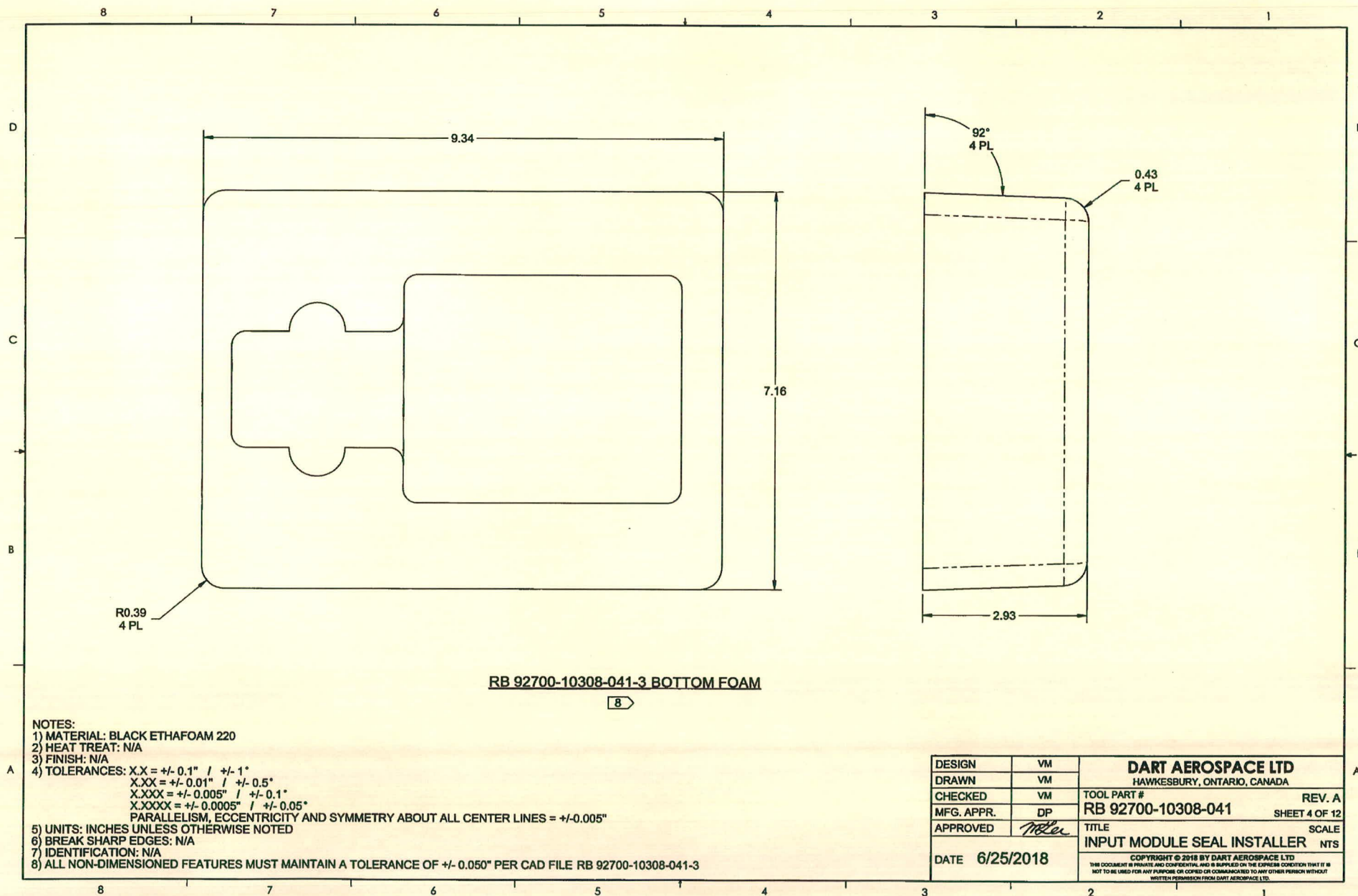
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED

- 6) BREAK SHARP EDGES: N/A
- 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VM		
CHECKED	VM	TOOL PART #	REV. A
MFG. APPR.	DP	RB 92700-10308-041	SHEET 2 OF 12
APPROVED	<i>VM</i>	TITLE	SCALE
		INPUT MODULE SEAL INSTALLER	NTS
DATE	6/25/2018	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	







Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO042039**

Supplier: PJM001-VC
P.J. Machinage
1381 Rte Cite-Des-Jeunes
St-Lazare
QC
J7T 2B8
Phone: 450-455-0705

PO No: PO042039
PO Date: 12/12/18
Due Date: 12/21/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lussier, Patrick

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	187746	RB 92700-10308-041-5P			Pusher	Firmed	-	12/21/18	1 Ea	0 Ea	1 Ea	\$459.75/Ea	\$459.75
Line Item Note Stainless Steel													
2	187747	RB 92700-10308-041-7P			Seal Installer	Firmed	-	12/21/18	1 Ea	0 Ea	1 Ea	\$360.00/Ea	\$360.00
Line Item Note stainless steel													
3	187748	RB 92700-10308-041-8P			Gear Alignment	Firmed	-	12/21/18	1 Ea	0 Ea	1 Ea	\$378.75/Ea	\$378.75
Line Item Note stainless steel													
4	187749	RB 92700-10308-041-9P			Alignment Ring Assembly	Firmed	-	12/21/18	1 Ea	0 Ea	1 Ea	\$422.25/Ea	\$422.25
Line Item Note stainless steel													
5	187750	RB 92700-10308-041-11P			Threaded Ring	Firmed	-	12/21/18	1 Ea	0 Ea	1 Ea	\$448.55/Ea	\$448.55
Line Item Note stainless steel													
												Grand Total: \$2,069.30	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO042039

Order Notes

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

A handwritten signature in black ink, appearing to be "P. Lussier", written over the signature line.

Plex 12/18/18 8:55 AM dart.Lussier.Patrick

Shipping Order

12/12/2018

P.J. Machinage (9052 9470 Qc Inc).
1381, Rte Cité-Des-Jeunes,
St-Lazare, Qc
J7T 2B8

Tel. : 450 455-0705

Order : 7358
Reference : PO042039-S/O : 7358
Ship : Votre camion

Customer : 628

Ship To

Dart Aerospace Ltd.
Accounts payable
1270 Aberdeen St
Hawkesbury, Ontario
K6A 1K7

Same

Fax: 1 613 632-5246

Item No.	Description	Qty	Qty. Delivere	B/O Qty
J7358-A	RB 92700-10308-041-5 Rev. A Pusher (SS 316)	1	<u>1</u> ✓	<u>Ø</u>
J7358-B	RB 92700-10308-041-7 Rev. A Seal Installer (SS 316)	1	<u>1</u> ✓	<u>Ø</u>
J7358-C	RB 92700-10308-041-8 Rev. A Gear Aligment (SS 316)	1	<u>1</u> ✓	<u>Ø</u>
J7358-D	RB 92700-10308-041-9 Rev. A Aligment Ring Assy (SS 316)	1	<u>1</u> ✓	<u>Ø</u>
J7358-E	RB 92700-10308-041-11 Rev. A Threaded Ring (SS 303)	1	<u>1</u> ✓	<u>Ø</u>

DAS
38
9-89

+ Balance Snap Ring
Spring Pin see
Pat

hussier
for details

P.J. Machinage demeure propriétaire des pièces machinées et autres biens vendus ou fruit des commandes exécutées pour le client jusqu'à complet paiement par le client de la facture afférente, peu importe que la matière première ou pièce ait été fournie par le client ou par P.J. Machinage. Dans les cas où la matière première (ou pièce) appartenait au client avant qu'elle ne soit remise à P.J. Machinage, aux fins de l'exécution d'une commande, entraîne la cession des droits de propriété du client sur ladite pièce ou matière première.

Shipping : Votre Camion
Package No : 17/12/2018
Merchandise Received: 17/12/2018

Ref. : Dicom D27 110 786

PJ Machinage**Certificate of conformance****Sold to:**

Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON, K6A 1K7

Supplier address:

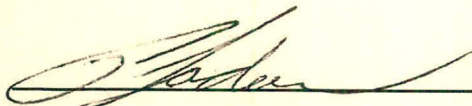
PJ Machinage
1381 Route Cité-Des-Jeunes
St-Lazare, Qc, J7T 2B8

Purchase Order: PO041487 ✓

This is to certify that the below names items were inspected and/or tested to your drawings, specifications and purchase order. Objective evidence are shipped with the products and are on file to support the verifications and/or tests and can be made available on request, unless otherwise noted.

<u>Part Number</u>	<u>Quantity</u>	<u>Description</u>
<u>RB 92700-10308-041-5</u> ✓ <u>Rev. A</u>	1 ✓	<u>Pusher</u>
<u>RB 92700-10308-041-7</u> ✓ <u>Rev. A</u>	1 ✓	<u>Seal Installer</u>
<u>RB 92700-10308-041-8</u> ✓ <u>Rev. A</u>	1 ✓	<u>Gear Aligment</u>
<u>RB 92700-10308-041-9</u> ✓ <u>Rev. A</u>	1 ✓	<u>Aligment Ring Assy</u>
<u>RB 92700-10308-041-11</u> ✓ <u>Rev. A</u>	1 ✓	<u>Threaded Ring</u>

DAS
38
9-89

 , December 15 , 2018

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS



Earle M. Jorgensen
(Canada) Inc.

7358-A

Page 01 of 02

Certification Date
17-MAY-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

134815
PART NUMBER/NUMÉRO DE PIÈCE

1255, AVE LAPLACE
VILLE DE LAVAL QC H7C 2N6

Invoice Number
S707370

SOLD TO: P.J. MACHINAGE
VENDU À: 9052-9470 QUEBEC INC
1381 ROUTE DE LA CITE DES JEUNES
SAINT- LAZARE QC J7T 2B8

SHIP TO:
EXPÉDIÉ À:

P.J. MACHINAGE
9052-9470 QUEBEC INC.
1381 ROUTE CITE DES JEUNES
SAINT- LAZARE QC J7T 2

Description: 316/316L CF ANN ASTM A479
2-1/4 RD X 12' R/L
HEAT: 6165

ITEM: 525425

Line Total: 0

Specifications:

AMS 5648 K 07
ASTM A479 16
EN 10204 3.1
ASTM E381 12
NACE MR0103 12
FED QQS 763 07

AMS 5653 F 07
ASME SA479 16
ASTM E112 10
NACE MR0175 15
ASTM A388/A388M 15

ASTM A276
QQ S 763 07
ASTM A262 PRAC E
ISO 15156 15
AMS QQS 763

CHEMICAL ANALYSIS

C	SI	MN	P	S	CR	MO	NI
0.028	0.33	1.53	0.04	0.016	16.83	2.02	10.03
N	CU						
0.0795	0.41						

RCPT: R286401

COUNTRY OF ORIGIN : INDIA

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
	43.0	90.0	58.0	77.0	174

GRAIN SIZE : 6 - 7

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST
CERTIFICAT D'ESSAIS



Earle M. Jorgensen
(Canada) Inc.

7358-A

Page 02 of 02

Certification Date
17-MAY-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

134815
PART NUMBER/NUMÉRO DE PIÈCE

1255, AVE LAPLACE
VILLE DE LAVAL QC H7C 2N6

Invoice Number
S707370

SOLD TO: P.J. MACHINAGE
VENDU À: 9052-9470 QUEBEC INC
1381 ROUTE DE LA CITE DES JEUNES
SAINT- LAZARE QC J7T 2B8

SHIP TO:

EXPÉDIE À:

P.J. MACHINAGE
9052-9470 QUEBEC INC.
1381 ROUTE CITE DES JEUNES
SAINT- LAZARE QC J7T 2

Description: 316/316L CF ANN ASTM A479
2-1/4 RD X 12' R/L
HEAT: 6165
CLEANLINESS

ITEM: 525425

Line Total: 0

	A		B		C		D	
	THIN MAX	THICK MAX	THIN MAX	THICK MAX	THIN MAX	THICK MAX	THIN MAX	THICK MAX
e45	1.0	0.5	0.0	0.0	0.5	0.0	1.0	0.5

MATERIAL IS FREE FROM MERCURY CONTAMINATION
ULTRASONIC: YES
THERMAL TREATMENT: OK
SOLUTION ANNEALED AT 1050 DEG C SOAKING FOR
2 HRS 30 MINS & WATER QUENCHED
CORROSION: OK
MACRO: OK
MICRO1: OK

COMMENTS

country of origin: india

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

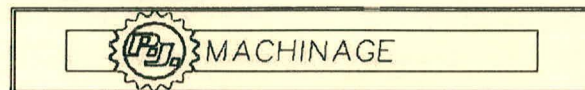
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Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CLIENT: 638
JOB No.: 7358-B
PLAN No.: 2nd Installer
P.O.: 18042039
QUANTITÉ: 1 NO



DATE: 12/12/18
 FORMAT No.: 001
 PAGE No.: _____

CONTRÔLE DE QUALITÉ

QUANTITÉ: 1 NOM DE LA PIÈCE: BTB 92706-10308-041-7 MATÉRIEL: 55316

[illegible]

OBSERVATION: _____

SIGNATURE RESPONSABLE: _____

THYSSENKRUPP MATERIALS NA

PJ MACHINAGE

BARRE RONDE ACIER INOX. 316L
3.50" DIA X 40.5000"
PART NO.

PO: Ref 133657

Nous certifions que le document reproduit ici est
une copie conforme du rapport fourni par le
fournisseur du materiel ou les donnees resultant

Certificate of Mill Test Results

BL VIM-521157-001

19 Sep 17
Pg 1 1

de l'analyse faite par un laboratoire qualifie.
SIGNE PAR:



North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 323840 1

Mail To:

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANC
SAINT LAURENT, QC H4S1A7

Ship To:

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANC
SAINT LAURENT, QC H4S1A7

Date: 8/16/2017 Page: 1

Customer: 007205 001

Steel: 316/316L

Finish: RT

Your Order: VIM642795

NAS Order: IN 0251621 05

Corrosion: ASTM A262 Prac E OK

Red Ratio: 6.1 :1

PRODUCT DESCRIPTION:

NACE MR0175 (MID RADIUS ONLY)
Round Bar, Hot Rolled, Annealed, Rough Turned
UNS S31600/S31603 EN 10204 3.1, ASTM A484/16
ASTM A276/16A, ASTM A479/16A, ASTM A182/16A CHEM ONLY,
ASME SA479/16A, ASME SA182/16A CHEM ONLY, ASTM F899/11
AMS 5648M/AMS 5653H, AMS QQS-763D, QQS 763F
SOLUTION ANNEAL TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8M
ASTM A193/10A-ASME SA193/10 CL 1 GR B8M(EXC PAR 7.2)

REMARKS:

COMPLIES W/REQUIREMENTS OF DFAR 252.225-7009 EU DIRECTIVE
2011/65/EU. RoHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BI7663 2		3.5000		1,183	144.00	7	1	

CHEMICAL ANALYSIS Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323
CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

NAS Heat	CM	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
421R	US	.021	.28	16.71	.37	1.46	2.05	.033	10.56	.030
		S %	SI %							
		.0230	.32							

MECHANICAL PROPERTIES

Product Id	1 d o i c r	HB No.	.2YS KSI	UTS KSI	RA %	Elong % 4D
BI7663 2	R L	143.0	36.00	78.00	74.00	64.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

8/16/2017

M.T.

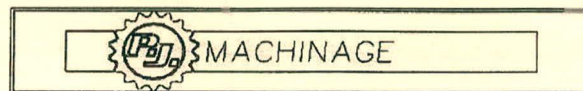


7358-C

206275

BOLLINGHAUS STEEL Bollinghaus Steel, SA DIN EN ISO 9001:2008 TÜV CERT No. 01 100 030458		Abnahmeprüfzeugnis/MEL Test Certificate/Certif. de Qualidade		No.: / Nr.: / Nr.:													
		EN 10204:2004 / 3.1		0000130867													
Unsere innere Verweisung / Our int. Ref / ref int		Datum / Date / Data															
5116158		30.08.2017															
Normen / Standards / Normas																	
TYPE 316/UNS S31600 and TYPE 316L/UNS S31603 acc. to ASTM A276/A276M-16a, ASTM A479/A479M-16a, ASTM A182/A182M-16a, ASTM A282-15 Pract. E, ASME SA479/SA479M-2016, ASME SA182/182M-2016, AMS QQ-S-763D, AMS 5848M, AMS 5653H, Ta Chen Specification dated November 1999, ASTM A484/A484M-16.																	
Kunde / Customer / Cliente			Endgültiger Kunde / Final Customer / Cliente Final														
Ta Chen International, Inc. 5855 Obispo Avenue 90805 Long Beach			Ta Chen International, Inc. 500 Richards Run, Unit 3 08016 Burlington, NJ														
Bestell Nr./Order Nr./Enc.Nr. L85131			Bestell Nr./Order Nr./Enc.Nr. L85131.13														
Produktgruppe / Product Group / Grupo Produto		Gewicht / Weight / Peso		Bunde / Bundle / Atados													
AISI 316L FLAT 1/2 X 1"		971 lb		01													
Werkstoff-Nr. Material-no. Qualidade 1.4404		Werkstoff-Normbezeichnung / Material standard grade / Norma do material X 2 CrNiMo 17-12-2															
Beschreibung / Description / Descrição																	
Stainless steel flat bars, hot rolled, heat treated, straightened and pickled US DFAR 262.226-7009: MELT SOURCE: Germany / MFG: Portugal.																	
Schmelzen Nr. Cast nr. / Fusão nr.		Chemische Analyse in % / Chemical composition in % / Análise química em %															
42275332		C	0.014	Si	0.330	Mn	1.880	P	0.024	S	0.027	Cr	16.670	Ni	10.000		
EAF+VOD		Mo	2.000	Co	0.086	Cu	0.230	N	0.042	Ti	0.001	-	-	-	-		
Proben Nr. Test no. Amostra no.		ASTM E309			ASTM A370												
		Kerbschlagarbeit Impact Test Resistência			Streckgrenze Yield point Tensão limite			Dehngrenze 1% point Limite de extensão			Zugfestigkeit Tensile strength Tensão de ruptura			Dehnung Elongation Alongamento			
		{Charpy V}			Rp 0.2 %			Rp 1.0%			Rm			A5			
		[J]			[KJ]			[KJ]			[KJ]			[%]			
4038391.01.01		210.0			61.1			55.8			94.6			56.2			
Visuelle Kontrolle Visual inspection Inspeção visual		☒ Ok		ASTM E10		Härte Hardness Dureza		180 [HB]		ASTM A262 Practice E		Korrosionsbeständigkeit IC Test Corrosão Intermetálica		☒ Ok		Wärmebehandlung Heat treatment Tratamento térmico	
ASTM A484		☒ Ok		ASTM E112		Korngröße Grain size Tamanho de grão		8		Werkzeugverständiger Quality Control Representative Inspector de Qualidade		Nuno Silva (Q-NS)		Annéaled Quenched 1650 °F (900 °C) (water quenched)			
Verwechslungsprüfung Test of identity Teste de identificação		☒ Ok		Mikroskopische Untersuchung Macrographic test		☒ Ok											
Bemerkungen / Remarks / Observações																	
Country of origin: Portugal. No weld repair done. Material is free of mercury and radiation contamination.																	

CLIENT: 626
JOB No.: 738-B
PLAN No.: Aliment Ring Assy
P.O.: 20042039
QUANTITÉ: 1



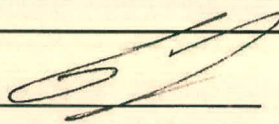
DATE: 12/12/18
FORMAT No.: 001
PAGE No.:

CONTRÔLE DE QUALITÉ

NOM DE LA PIÈCE: RD 2700-10308-041-9 MATÉRIEL: SS 316

DIMENSIONS DE DESSIN ET TOLERANCE									
PIÈCE No.	<u>1.600</u>	<u>3.750</u>	<u>0.150</u>	<u>380</u>	<u>3.305</u>	<u>3.800</u>			
DIMENSIONS DE LA PIÈCE									
	<u>1.600</u>	<u>3.750</u>	<u>0.150</u>	<u>380</u>	<u>3.306</u>	<u>3.798</u>			

OBSERVATION: _____

SIGNATURE RESPONSABLE: 

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS



Earle M. Jorgensen
(Canada) Inc.

7358-D

Page 01 of 02

Certification Date
4-AUG-2017

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

133492

PART NUMBER/NUMÉRO DE PIÈCE

509360

EARLE M JORGENSEN CAN DIV RMCL
1255, AVE LAPLACE
VILLE DE LAVAL QC H7C 2N6

Invoice Number
S695624

SOLD TO: P.J. MACHINAGE
VENDU À: 9052-9470 QUEBEC INC
1381 ROUTE DE LA CITE DES JEUNES
SAINT- LAZARE QC J7T 2B8

SHIP TO:
EXPÉDIÉ À:

P.J. MACHINAGE
9052-9470 QUEBEC INC.
1381 ROUTE CITE DES JEUNES
SAINT- LAZARE QC J7T 2

Description: 316/316L ANN HR RT BAR
4-1/4 RD S/C 2'0" (24.0")
HEAT: 227K

ASTM A479
Line Total: 96.56 LB

ITEM: 509360

Specifications:

AMS 5648 L
ASTM A276 16
UNS S31600/S31603
ASTM A182 CHEM ONLY 13
AMS QQS 763 D
ASME SA193 CL1 B8M 10
ASTM A751 14A

AMS 5653 H
ASTM A479 16
EN 10204 3.1
ASME SA182 CHEM ONLY 10
ASTM A320 CL1 B8M 08
EXC PAR 7.2

QQ S 763 F
ASME SA479 13
ASTM A484 13A
ASTM F899 11
ASTM A193 10A
ASTM A262 PR E

CHEMICAL ANALYSIS

C	CO	CR	CU	MN	MO	N	NI
0.0167	0.1950	16.55	0.4495	1.442	2.034	0.0413	10.585
P	S	SI					
0.0285	0.022	0.2955					

RCPT: R143054

COUNTRY OF ORIGIN : USA

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
	39.0	82.0	58.0	70.0	149

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The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST
CERTIFICAT D'ESSAIS



Earle M. Jorgensen
(Canada) Inc.

7388-D

Page 02 of 02

Certification Date
4-AUG-2017

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

133492

PART NUMBER/NUMÉRO DE PIÈCE

509360

EARLE M JORGENSEN CAN DIV RMCL
1255, AVE LAPLACE
VILLE DE LAVAL QC H7C 2N6

Invoice Number
S695624

SOLD TO: P.J. MACHINAGE
VENDU À: 9052-9470 QUEBEC INC
1381 ROUTE DE LA CITE DES JEUNES
SAINT- LAZARE QC J7T 2B8

SHIP TO:
EXPÉDIÉ À:

P.J. MACHINAGE
9052-9470 QUEBEC INC.
1381 ROUTE CITE DES JEUNES
SAINT- LAZARE QC J7T 2

Description: 316/316L ANN HR RT BAR
4-1/4 RD S/C 2'0" (24.0")
HEAT: 227K

ASTM A479
Line Total: 96.56 LB

ITEM: 509360

REDUCTION RATIO 4.1 TO 1 MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
THERMAL TREATMENT: OK
SOL ANNEAL TEMP 1900F MIN
CORROSION: OK

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

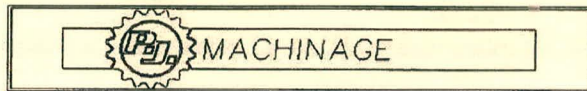
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Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CLIENT: 628
JOB No.: 7358-F
PLAN No.: Threecord Ring
P.O.: P0042039
QUANTITÉ: 1 NO



DATE: 17/12/18
 FORMAT No.: 001
 PAGE No.: _____

CONTRÔLE DE QUALITÉ

QUANTITÉ: 1 NOM DE LA PIÈCE: RB 92700-10308-081-11 MATÉRIEL: 65 303

[illegible]

OBSERVATION:

SIGNATURE RESPONSABLE:



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

P J Machinage
1381 Rte DE LA Cite-Des-Jeunes
St-Lazare PQ J7T 2B8
Canada

Purchase Order
135748

Order Placed By
Marie Vallee

McMaster-Carr Number
5281732-01

Page 1 of 1

12/12/2018

Line	Product	Ordered	Shipped
1	97633A270 External Retaining Ring for 7/8" OD, Black-Phosphate 1060-1090 Spring Steel, Packs of 50	1 Pack	1
2	90692A693 Zinc-Plated Steel Slotted Spring Pins, 1/8" Diameter, 7/16" Long, Packs of 250	1 Pack	1

Certificate of compliance

This is to certify that the above items were supplied in accordance with the description and as illustrated in the catalog. Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

Sarah Weinberg

Sarah Weinberg
Compliance Manager

RECEIVED
04/12/2018



Packing Lis

200 Aurora Industrial Pkwy
Bra OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

P J Machinage
1381 Rte DE LA Cite-Des-Jeunes
St-Lazare PQ J7T 2B8
Canada

Purchase Order
135746

Order Placed By
Marie Vallee

McMaster-Carr Number
5261882-01

Page 1 of 1

12/12/2018

Line	Product	Ordered	Shipped
1	97633A470 External Retaining Ring for 2-3/4" OD, Black-Phosphate 1060-1090 Spring Steel, Packs of 5	1 Pack	1

Certificate of compliance

This is to certify that the above items were supplied in accordance with the description and as illustrated in the catalog. Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

Sarah Weinberg
Compliance Manager

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>187747</u> Part No. <u>RB92700-10308-041 Rev. A</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube ☐</td> <td style="width:12.5%;">Cross tube ☐</td> <td style="width:12.5%;">Water Jet ☐</td> <td style="width:12.5%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																																																			
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Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval Dec 20, 2018																																																																																																																					
Description Work Order Deviation				Disposition																																																																																																																							
RB 92700-10308-041-5/-7/-9 has been manufactured from 316 Stainless Steel as an alternative material Black Oxide is not required The 2.86" diameter on -7 has been reduced to the 2-7/8" minor thread diameter. *Production request for rush lead-time*				- This deviation is acceptable. - The fit, form and function of the part will be as originally intended.																																																																																																																							
								Completed By																																																																																																																			
								Lead hand / Supervisor Approval Verification																																																																																																																			
QC / QA Coordinator Approval																																																																																																																											
Root Cause <table style="width:100%; border: none;"> <tr><td>Environment</td><td>☐</td><td>No Re-verification</td></tr> <tr><td>Design</td><td>☐</td><td>Operator</td></tr> <tr><td>Doc/Data</td><td>☐</td><td>Offset/Setup</td></tr> <tr><td>Equip/Tooling</td><td>☐</td><td>Supplier</td></tr> <tr><td>Handling/Pre</td><td>☐</td><td>Training</td></tr> <tr><td>Material</td><td>☒</td><td>Use for Testing</td></tr> <tr><td>Internal Transport</td><td>☐</td><td>Poor Information</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td><td>Rushing</td></tr> <tr><td>LOA</td><td>☐</td><td>Product Improvement</td></tr> <tr><td>Substation</td><td>☐</td><td>Process Improvement</td></tr> <tr><td>Past Expiry Date</td><td>☐</td><td>Manufacturing Process</td></tr> <tr><td>Misidentified</td><td>☐</td><td>Past Due</td></tr> </table>				Environment	☐	No Re-verification	Design	☐	Operator	Doc/Data	☐	Offset/Setup	Equip/Tooling	☐	Supplier	Handling/Pre	☐	Training	Material	☒	Use for Testing	Internal Transport	☐	Poor Information	Tribal Knowledge	☐	Rushing	LOA	☐	Product Improvement	Substation	☐	Process Improvement	Past Expiry Date	☐	Manufacturing Process	Misidentified	☐	Past Due	FAULT CATEGORY <table style="width:100%; border: none;"> <tr><td>Pressure/Forced</td><td>☐</td><td>Temperature/Cure</td><td>☐</td><td>Power Loss/Surge</td><td>☐</td><td>Positioned Wrong</td><td>☐</td></tr> <tr><td>Bending</td><td>☐</td><td>Set-up</td><td>☐</td><td>Folio/Program</td><td>☐</td><td>Outside Dimensions</td><td>☐</td></tr> <tr><td>Centre Not Concentric</td><td>☐</td><td>BOM/Route</td><td>☐</td><td>Grain</td><td>☐</td><td>Over/Under tolerance</td><td>☐</td></tr> <tr><td>Cracks</td><td>☐</td><td>Broken/Damage/Defect</td><td>☐</td><td>Weld</td><td>☐</td><td>Part Incorrect</td><td>☐</td></tr> <tr><td>Crimp/Kink/Ripple/Wave</td><td>☐</td><td>Inspection Incomplete/Unqualified</td><td>☐</td><td>Wrong Stock Pulled</td><td>☐</td><td>Part Lost/Missing</td><td>☐</td></tr> <tr><td>Cuffs</td><td>☐</td><td>Contamination</td><td>☐</td><td>Out of Sequence</td><td>☐</td><td>Part Moved</td><td>☐</td></tr> <tr><td>Crushing</td><td>☐</td><td>Countersink</td><td>☐</td><td>Off-set</td><td>☐</td><td>Drawing</td><td>☐</td></tr> <tr><td>Heat Treat</td><td>☐</td><td>Cut Too Short</td><td>☐</td><td>Mislabeled</td><td>☐</td><td>Finish</td><td>☐</td></tr> <tr><td>Wave/Twist in Tube</td><td>☐</td><td>Instructions Incomplete/Unclear</td><td>☐</td><td>Fit/Function</td><td>☐</td><td>Misread</td><td>☐</td></tr> <tr><td>Marks/Chatter</td><td>☐</td><td>Drill Holes</td><td>☐</td><td>Misaligned/off center</td><td>☐</td><td>Turning Sequence</td><td>☐</td></tr> </table>				Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
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